

Welcome to Compression Train Configurator

Please select one from the above menu



Fig. 1

**GE Power Systems**  
Oil & Gas  
Nuovo Pignone - Upstream

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	Project Title	Date	RFQ
	TEST1	01.23.2001	rfq
TEST1			
	TEST2	01.26.2001	rfq
TEST2			
	TEST3	01.27.2001	rfq
test3			
	TEST4	01.30.2001	
TEST4			
	Test5	01.31.2001	
Test5			
	giazella	01.31.2001	
testing			
	test2a1	01.31.2001	
td			

open

rename

delete

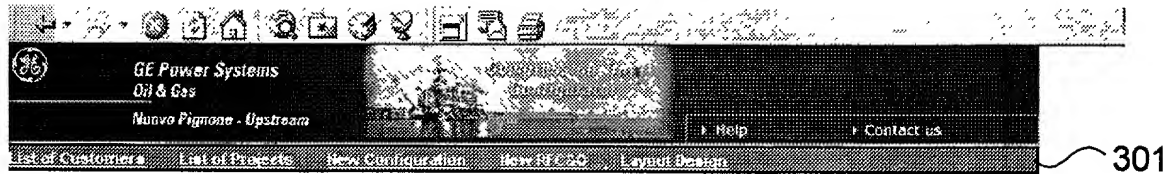
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Fig. 2

300



## Configurations

310

304 305 306

Project Title: TEST1 303

View RFC&amp;O List

	Name	Date	Train Components	View	View	RFQ
304		01.11.2001	EHASVNC7870KW + GB + 2BC11006	chk	dsh	
	LH2500	01.11.2001	LH2500 + GB + BCL104/C	chk	dsh	
	maine elctro	01.11.2001	EHASVNC4810KW + GB + BCL104	chk	dsh	
	PGT10	01.11.2001	PGT10 + GB + BCL150	chk	dsh	
	Test	01.11.2001	GEI6 + GB + BCL1506	chk	dsh	
	Conf1	01.11.2001	FRAMESC + GB + BCL104/A + BCL155/B	chk	dsh	
	4	01.11.2001	LH2500 + GB + BCL104/A + BCL155/B	chk	dsh	
	ca+12	01.11.2001	LH2500 + GB + BCL104/A + BCL155/B	chk	dsh	
	12	01.11.2001	FRAMESD + GB + BCL104/B + BCL155/C	chk	dsh	
	PAOLO	01.11.2001	LH2500 + GB + BCL1507/A	chk	dsh	
	68	01.11.2001	LH2500 + GB + BCL1502/W	chk	dsh	
	Page	02.01.2001	LH2500 + GB + BCL104/A + BCL155/B	chk	dsh	
	1146	02.01.2001	EHASVNC1050KW + GB + BCL155 + 2BCL1257	chk	dsh	

302

open

rename

delete

307

308

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Fig. 3

097533091

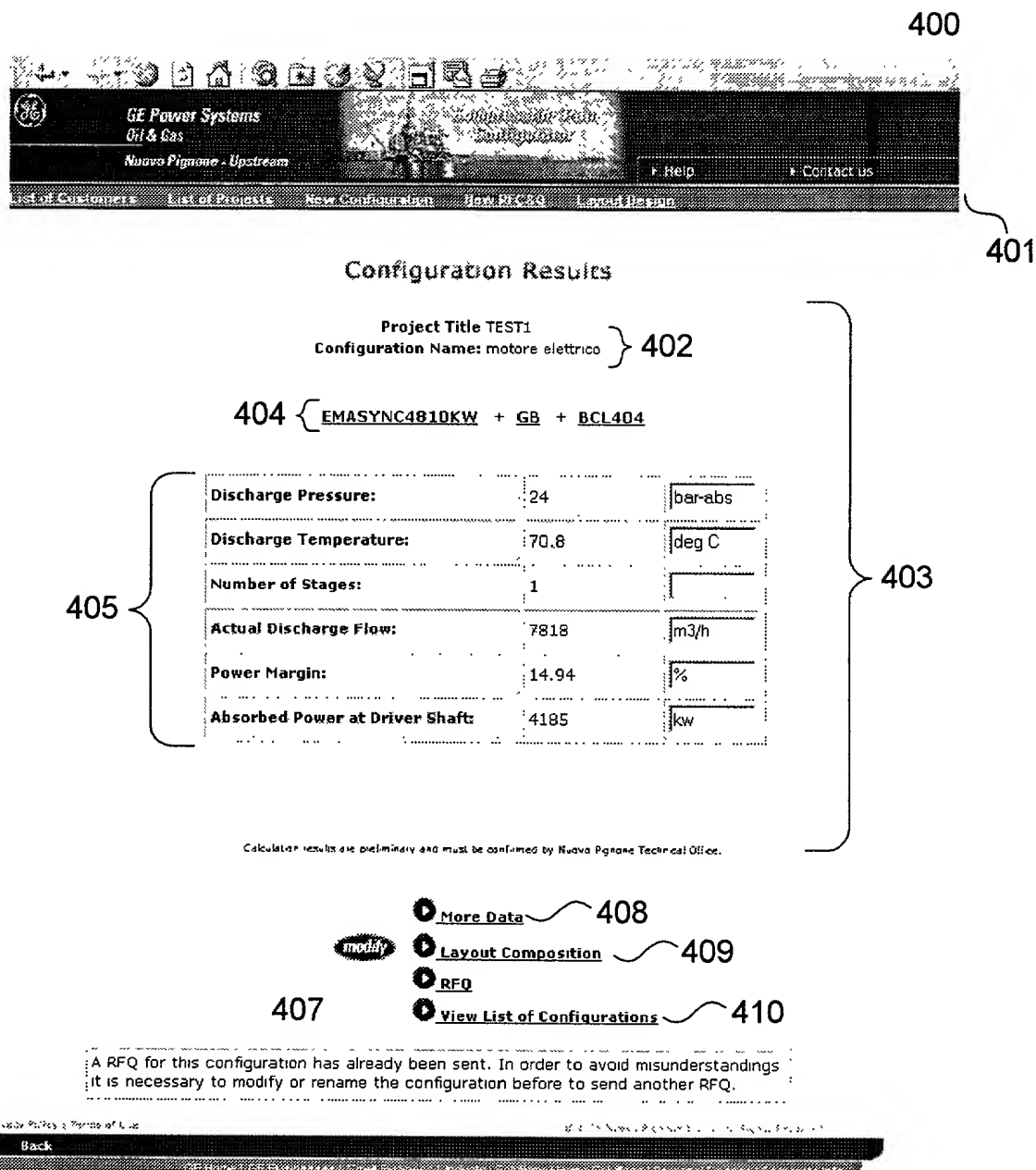


Fig. 4



### Configuration Results

Project Title TEST1  
Configuration Name: motore elettrico

EMASYN4810KW + GB + BCL404

Discharge Pressure:	24	bar-abs
Discharge Temperature:	70.8	deg C
Number of Stages:	1	
Actual Discharge Flow:	7818	m3/h
Power Margin:	14.94	%
Absorbed Power at Driver Shaft:	4185	kw

Calculation results are preliminary and must be confirmed by Nuovo Pignone Technical Office

- More Data
- Layout Composition
- RFO
- View List of Configurations



Fig. 5

600

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601

### New Configuration

Plant General data

Unit System SI

Compression Service Not Specified

602

---

Environment Conditions

Environmental Design Pressure\* Asl

m

Design Temperature\* deg C

Relative Humidity\* %

603

---

Driver Specifications

Driver Type Optimized

Model Optimized

Gas Turbine Data

Electrical Frequency 50 Hz

Fuel Type Process Gas

Compressor Speed rpm

604

---

Next

605

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**Fig. 6**

## New Configuration

### Compression Data

Gas State Equation Optimized Race Application Not

706 Process Gas \*

Handled Flow \* Mass Flow \* kg/s

Suction Pressure \* bar-abs Suction Temperature \* deg C  
Discharge Pressure \* bar-abs Max Temperature 170 deg C

### Compressor Options

Stage Number Optimized

#### Casing Type

Horizontally Split Not  
Back-To-Back Yes  
Double Flow Not  
Max Peripheral Speed of Impellers 280 m/s

#### Stage Compression Ratios as Percentage of 1st Stage

2° Stage %  
3° Stage %  
4° Stage %

#### Casing Model and Size

1° Casing Model Optimized 2° Casing Model Optimized 3° Casing Model Optimized  
1° Casing Size Optimized 2° Casing Size Optimized 3° Casing Size Optimized

### Interstage Data

Gas Cooler Discharge Temperature 55 deg C Max Stage Suction Temperature 120 deg C

#### Interstage Pressure Drop

Between 1° & 2° Stages 25 %  
Between 2° & 3° Stages 25 %  
Between 3° & 4° Stages 25 %

#### Interstage Discharge Pressures

1° Stage bar-abs  
2° Stage bar-abs  
3° Stage bar-abs

705

Fig. 7

## Fuel Gas Composition

### Water Content

Reference humidity

%

Reference temperature

deg C

Reference pressure

bar-abs

Water

%

Please fill the above field to insert the water value. If you want insert the relative humidity of gas composition use the "relative humidity" box "reference pressure" and "reference temperature". If you want insert the water quantity of gas composition fill the "water" box. If you don't want insert water value leave all field blank.

### Gas Composition

Type of Measures Moles

Component name	Quantity(%) *	Component name	Quantity(%) *
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>
<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">00</span>	<span style="border: 1px solid black; padding: 2px;">-&gt;Select</span>	<span style="border: 1px solid black; padding: 2px;">0.0</span>

Confirm

**Fig. 8**

0076390301

900

901

Process Gas Composition

Water Content

Reference humidity  %

Reference temperature  deg C

Reference pressure  bar-abs

Water  %

902

Please fill the above field to insert the water value. If you want insert the relative humidity of gas composition use the "relative humidity" box "reference pressure" and "reference temperature". If you want insert the water quantity of gas composition fill the "water" box. If you don't want insert water value leave all field blank.

Gas Composition

Type of Measures  Moles

Component name

Quantity(%) \*

Component name

Quantity(%) \*

903

confirm

904

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Fig. 9



## Configuration Results

PGT5 + GB + BCL801

<b>Discharge Pressure:</b>	8.00	bar-abs
<b>Discharge Temperature:</b>	25.87	deg C
<b>Number of Stages:</b>	1	
<b>Actual Discharge Flow:</b>	34359.2	m <sup>3</sup> /h
<b>Power Margin:</b>	15.21	%
<b>Absorbed Power at Driver Shaft:</b>	1363.	kW

Calculation results are preliminary and must be confirmed by Nuova Pignone Technical Office



**Fig. 10**

1100

1101

### More Data

#### Driver Data

Description	Overall	
Discharge Pressure:	8.00	bar-abs
Driver Model:	PGT5	
Actual Discharge Flow:	34359.2	m3/h
Absorbed Power at Driver Shaft:	1363.	kw
Power Margin:	15.21	%
Electrical Frequency:	50	hz

1103

#### Compression Data

Description	Stage 1	Stage 2	Stage 3	Stage 4	
Molecular Weight:	16.043				1/mole
Handled Flow: Mass Flow	50				kg/s
Suction Pressure:	7.00				bar-abs
Suction Temperature:	15.00				deg C
Suction Actual Flow:	37843.5				m3/h
Discharge Pressure:	8.00				bar-abs
Discharge Temperature:	25.87				deg C
Discharge Actual Flow:	34359.2				m3/h
Impeller Number:	1				
Speed:	4024.				rpm
Politropic Efficiency:	84.46				%

1104

	Model	Type	Size	Impeller Number:	Rating
Compressor Casing 1	BCL801	BCL	800	1	600
Compressor Casing 2					
Compressor Casing 3					

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1106

**Fig. 11**

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1300

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New RFC&Q

Plant General data

Unit System  Compression Service

Environment Conditions

Environmental Design Pressure\*  m

Design Temperature\*  deg C Relative Humidity\*  %

Driver Specifications

Driver Type  Model

Gas Turbine Data

Fuel Type  Electrical Frequency  Hz

Compressor Speed  rpm

1302

1303

1304

next 1306

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**Fig. 13**



## New RFC&Q

### Compression Data

Gas State Equation

Nace Application

Stage Number

	Stages					
	Optimized	1st	2nd	3rd	4th	
Handled Flow <input type="text" value="Mass Flow"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	kg/s
Suction Pressure *	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	bar-abs
Suction Temperature *	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	deg C
Discharge Pressure *	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	bar-abs

Process Gas \*  ☐

Max Temperature \*

### Compressor Options

#### Casing Type

Horizontally Split	<input type="text" value="Not"/>
Back-To-Back	<input type="text" value="Yes"/>
Double Flow	<input type="text" value="Not"/>
Max Peripheral Speed of Impellers *	<input type="text" value="280"/> <input type="text" value="m/s"/>

### Interstage Data

Gas Cooler Discharge Temperature \*

Max Stage Suction Temperature \*

#### Interstage Pressure Drop

Between 1° & 2° Stages *	<input type="text" value="2.5"/> <input <="" td="" type="text" value="%"/>
Between 2° & 3° Stages *	<input type="text" value="2.5"/> <input <="" td="" type="text" value="%"/>
Between 3° & 4° Stages *	<input type="text" value="2.5"/> <input <="" td="" type="text" value="%"/>

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1406

Fig. 14

1500

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New RFC&Q

Load Results

RFC&Q Summary Data

1501

General Data

Compression Service	Not Specified
Driver Type:	Optimized
Driver Model:	OGT
Direct Coupling:	Not

1503

Compression Data

Description	Optimized	Stage 1	Stage 2	Stage 3	Stage 4	
Handled Flow: Mass Flow	1					kg/s
Suction Pressure:	1					bar-abs
Suction Temperature:	1					deg C
Discharge Pressure:	1					bar-abs

1504

save

1505

modify

1506

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**Fig. 15**

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RFC&Q Summary Data

Project Title: TEST1

RFC&Q Name: gra

General Data

Compression Service	Not Specified
Driver Type:	Optimized
Driver Model:	OGT
Direct Coupling:	Not

Compression Data

Description	Optimized	Stage 1	Stage 2	Stage 3	Stage 4	
Handled Flow: Mass Flow	1					kg/s
Suction Pressure:	1					bar-abs
Suction Temperature:	1					deg C
Discharge Pressure:	1					bar-abs

modify

1605

1606

1607

1608

RFQ

List Of Verifications

View List of RFC&Q

Fig. 16



RFC&Q

Project Title: TEST1

1705 1706 1707

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	Name	Date	View	View	RFQ
1704	2	01.26.2001	chk	dsh	rfq 01.27.2001
	piave vet	01.29.2001	chk	dsh	rfq 01.29.2001
	piave vet	01.29.2001	chk	dsh	rfq 01.30.2001
	piave	01.30.2001	chk	dsh	rfq 01.30.2001
	piave vet 3end	01.30.2001	chk	dsh	rfq 01.30.2001
	piave9	01.30.2001	chk	dsh	rfq 01.30.2001
	piave 1	01.31.2001	chk	dsh	rfq 01.31.2001
	RT	01.31.2001	chk	dsh	

1703

open

refresh

delete

1708

1709

1710

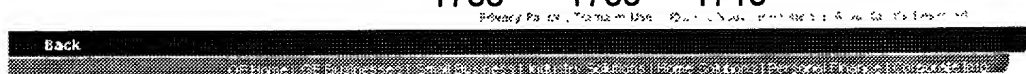
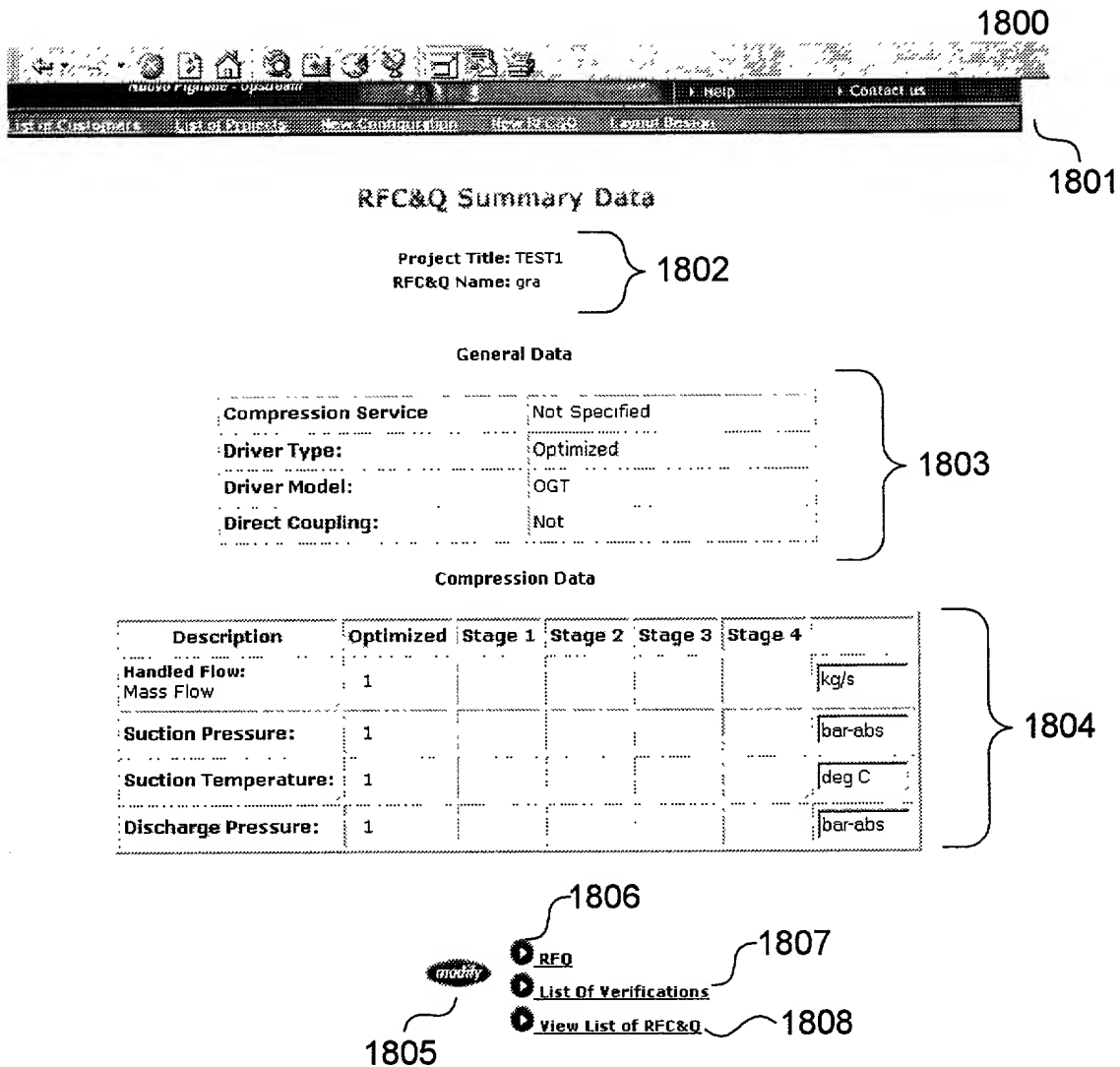
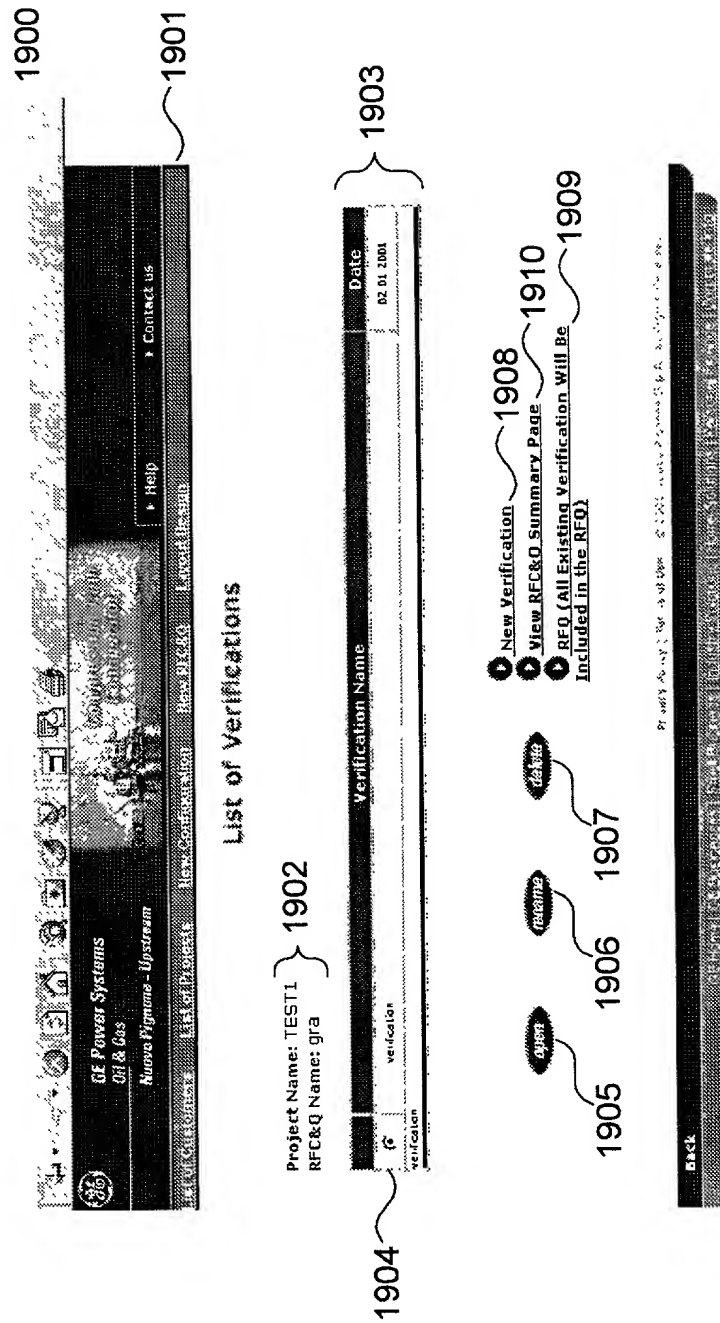


Fig. 17



**Fig. 18**



**Fig. 19**

2000

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**New Verification**

Project Name: TEST1  
 RFC&Q Name: gra

Plant General data

Unit System: SI
Compression Service: Not Specified

Environment Conditions

Environmental Design Pressure:
Asl: 0
m

Design Temperature\* 0 deg C
Relative Humidity\* 0 %

Driver Specifications

Driver Type: Optimized
Model: Optimized

Gas Turbine Data

Fuel Type	Process Gas
Fuel Mole Weight	1 /mole
Fuel Low Heat Value	1500 kJ/kg

☒ Fuel Gas

Electrical Frequency
50
cps

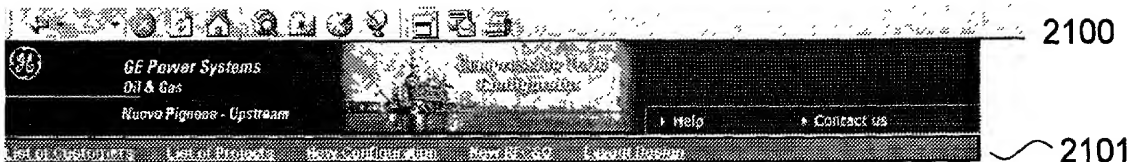
Compressor Speed
rpm

2005

2006

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**Fig. 20**



### New RFC&Q

Project Name: TEST1  
RFC&Q Name: gra

### Compression Data

Gas State Equation: Optimized

Nace Application: Not

Stage Number: Optimized

		Stages					
		Optimized	1st	2nd	3rd	4th	
Handled Flow:	Mass Flow			35			kg/s
	Suction Pressure *			60			bar-abs
	Suction Temperature *			55			deg C
	Discharge Pressure *			100			bar-abs

Process Gas \* All Stages

Max Temperature: 170 deg C

### Compressor Options

Casing Type	
Horizontally Split:	Not
Back-To-Back	Yes
Double Flow	Not
Max Peripheral Speed of Impellers	280 m/s

### Interstage Data

Gas Cooler Discharge Temperature \* 55 deg C Max Stage Suction Temperature 120 deg C

Interstage Pressure Drop		
Between 1° & 2° Stages	2.5	%
Between 2° & 3° Stages	2.5	%
Between 3° & 4° Stages	2.5	%

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Fig. 21

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## 2201

2202

- 2203

<b>Compression Service</b>	Not Specified
<b>Driver Type:</b>	Optimized
<b>Driver Model:</b>	OGT
<b>Direct Coupling:</b>	Not

## - 2204

Description	Optimized	Stage 1	Stage 2	Stage 3	Stage 4	
Handled Flow: Mass Flow	1		35			kg/s
Suction Pressure:	1		60			bar-abs
Suction Temperature:	1		55			deg C
Discharge Pressure:	1		100			bar-abs

**Save**

**modify**

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**Fig. 22**

FIG. 23

2300

2301

2302

2303

2304

2305

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### New Layout

Project Data

Project Name Configuration

Driver Specifications

Driver Gearbox

Compressor Casings

	Type	Impeller	Rating
Compressor Casing 1			
Compressor Casing 2			
Compressor Casing 3			

design 2305

Dr. Luigi Pignone & Partners s.p.a. - Via S. Zeno 10 - 40138 Bologna (BO) - Italy - Tel. +39 051 2644111 - Fax +39 051 2644112

**Fig. 23**

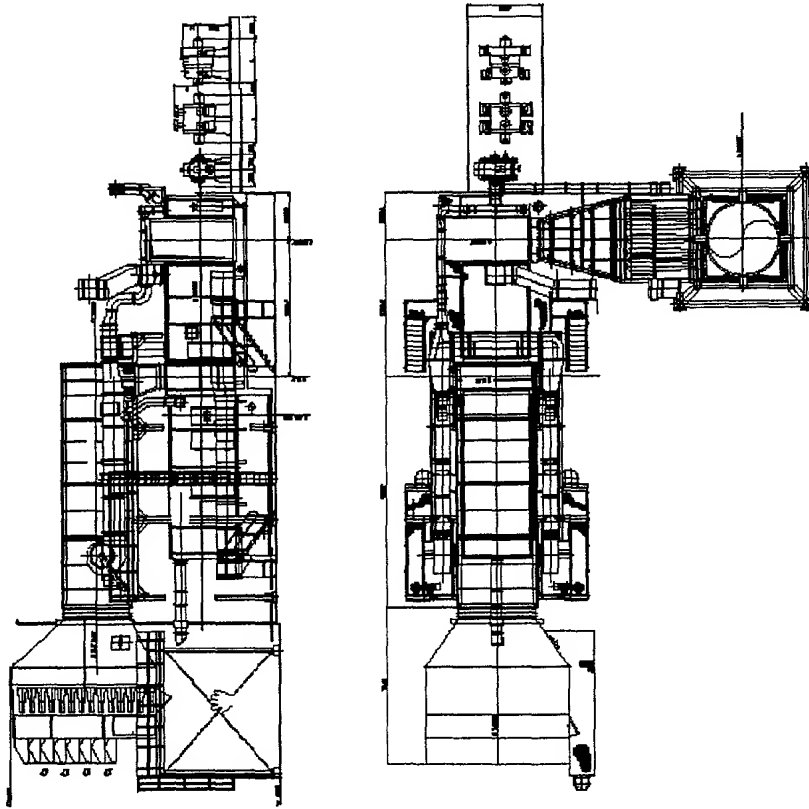


Fig. 24

## Compressor Checklist

Final User: \_\_\_\_\_

Country:  State:

Number of Trains to be quoted (each handling 100% of the flow indicated in datasheets)

Unit Location

Date Required for Response \_\_\_\_\_

### 1. Delivery (According to Incoterms 1990)

☒ Ex-Works ☐ F.C.A.  
☐ F.A.S. ☐ F.O.B. Port of Shipment: \_\_\_\_\_  
☐ C&F ☐ C.I.F. Port of Destination: \_\_\_\_\_  
☐ D.D.U. Place of Shipment: \_\_\_\_\_

### 2. Type of Installation

### 3. Forecasted year of installation \_\_\_\_\_

### 4. Compression Train Baseplate

☒ Multipoint Baseplate ☐ Three-Points Single Lift Baseplate

### 5. Gas Turbine Combustion System

☒ STD Combustor ☐ DLE  
☐ Water Injection ☐ Steam Injection

### 6. Turbine Inlet System

☒ Included ☐ Not Included

### 7. Turbine Exhaust System

☒ Included ☐ Not Included

### 8. Battery & Battery Charger System

☐ Included ☒ Not Included

### 9. Compressor Seals

☒ Dry Gas ☐ Oil

### 10. Antisurge Controls, Instrumentation & Valves

☐ Included ☒ Not Included

### 11. Test

☐ Full Load/Speed/Pressure String Test ☐ ASME PTC10 Class 1 String Test  
☐ ASME PTC10 Class 3 Performance Test for Compressor ☐ No Load/Full Speed/Pressure String Test  
☐ STD Gas Turbine No Load Mechanical Running Test

### 12. Date Required for Response (mm.dd.yyyy)

\_\_\_\_\_

confirm

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Fig. 25

## Electric Motor Checklist

Final User : \_\_\_\_\_  
 Country:  State:   
 Number of Trains to be quoted (each handling 100% of the flow indicated in datasheets)   
 Unit Location   
 Date Required for Response \_\_\_\_\_

### 1. Delivery (According to Incoterms 1990)

☒ Ex-Works ☐ F.C.A.  
☐ F.A.S. ☐ F.O.B.  
☐ C&F ☐ C.I.F.  
☐ D.D.U.

Port of Shipment: \_\_\_\_\_  
 Port of Destination: \_\_\_\_\_  
 Place of Shipment: \_\_\_\_\_

### 2. Type of Installation

### 3. Forecasted year of installation \_\_\_\_\_

### 4. Compression Train Baseplate

☒ Separate Multipoint Baseplate for Driver and Compressor ☐ Common Multipoints Baseplate

### 5. Gas Turbine Combustion System

☒ STD Combustor ☐ DLE  
☐ Water Injection ☐ Steam Injection

### 6. Turbine Inlet System

☒ Included ☐ Not Included

### 7. Turbine Exhaust System

☒ Included ☐ Not Included

### 8. Battery & Battery Charger System

☐ Included ☒ Not Included

### 9. Compressor Seals

☒ Dry Gas ☐ Oil

### 10. Antisurge Controls, Instrumentation & Valves

☐ Included ☒ Not Included

### 11. Test

☐ Full Load/Speed/Pressure String Test ☐ ASME PTC10 Class 1 String Test  
☐ ASME PTC10 Class 3 Performance Test for Compressor ☐ No Load/Full Speed/Pressure String Test  
☐ STD Gas Turbine No Load Mechanical Running Test

### 12. Date Required for Response (mm.dd.yyyy)

\_\_\_\_\_

**Fig. 26**

CONFIDENTIAL

## Turbocompressor Checklist

Final User:

Country:  State:

Number of Trains to be quoted (each handling 100% of the flow indicated in datasheets)

Unit Location

Date Required for Response

### 1. Delivery (According to Incoterms 1990)

- ☒ Ex-Works ☐ F.C.A.  
☐ F.A.S. ☐ F.O.B.  
☐ C&F ☐ C.I.F.  
☐ D.D.U.
- Port of Shipment:   
Port of Destination:   
Place of Shipment:

### 2. Type of Installation

### 3. Forecasted year of installation

### 4. Compression Train Baseplate

- ☒ Separate Multipoint Baseplate for Driver and Compressor ☐ Common Multipoints Baseplate

### 5. Gas Turbine Combustion System

- ☒ STD Combustor ☐ DLE  
☐ Water Injection ☐ Steam Injection

### 6. Turbine Inlet System

- ☒ Included ☐ Not Included

### 7. Turbine Exhaust System

- ☒ Included ☐ Not Included

### 8. Battery & Battery Charger System

- ☐ Included ☒ Not Included

### 9. Compressor Seals

- ☒ Dry Gas ☐ Oil

### 10. Antisurge Controls, Instrumentation & Valves

- ☐ Included ☒ Not Included

### 11. Test

- ☐ Full Load/Speed/Pressure String Test ☐ ASME PTC10 Class 1 String Test  
☐ ASME PTC10 Class 3 Performance Test for Compressor ☐ No Load/Full Speed/Pressure String Test  
☐ STD Gas Turbine No Load Mechanical Running Test

### 12. Date Required for Response (mm.dd.yyyy)

Fig. 27



FIG. 28 - 8/25/2000

2800

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Oil & Gas  
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Send RFQ

2801

Project Title: TEST1  
RFC&Q Name: gra

2802

To:	daniele.badiani@np.ge.com
Subject:	
From Address:	stefano.lanfredi@np.ge.com
From Name:	Stefano Lanfredi
Message:	

2803

2804 View CHK

2805 View DSH

2806 send rfq

2807 View RFC&Q Results

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Fig. 28

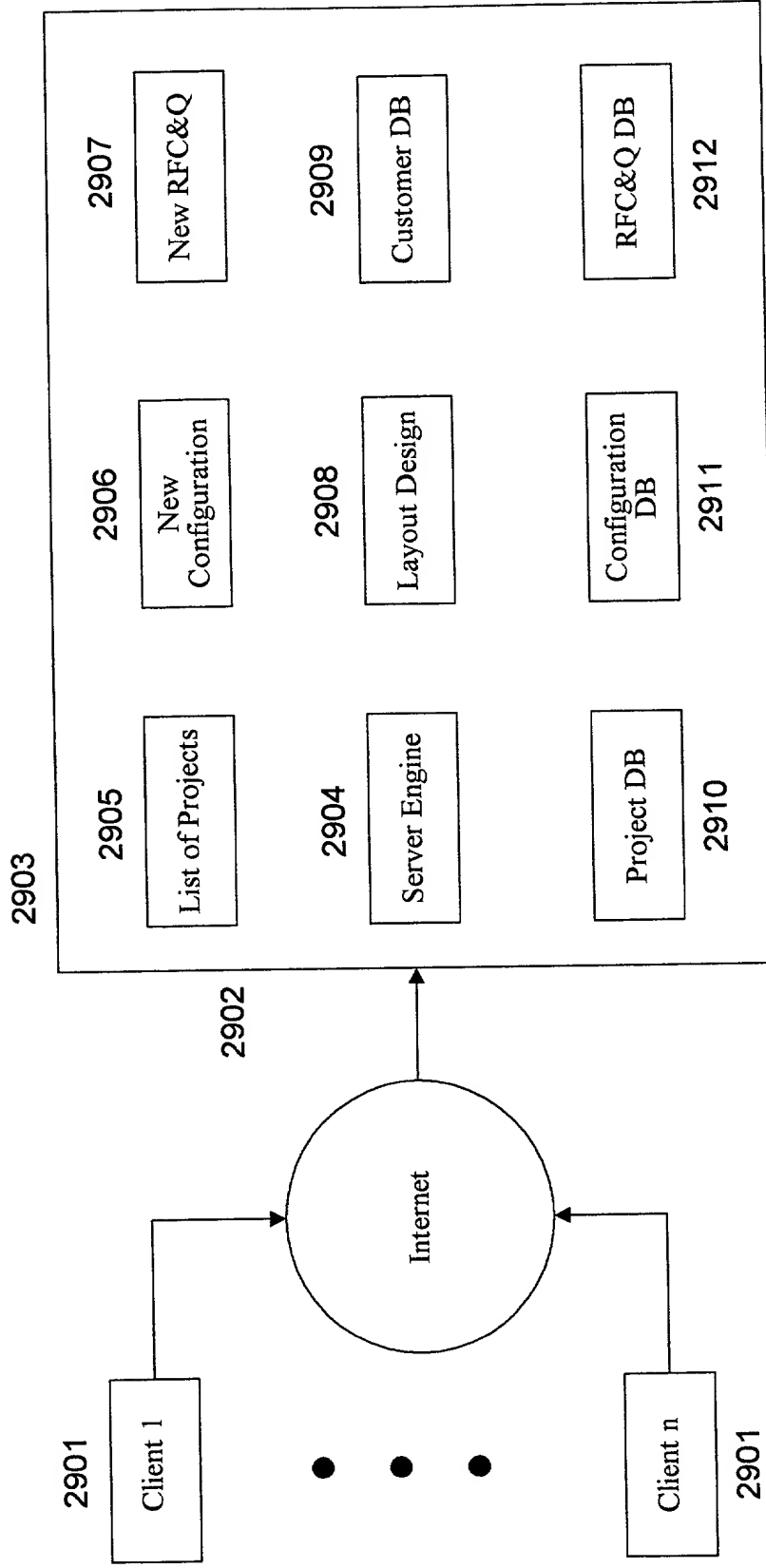
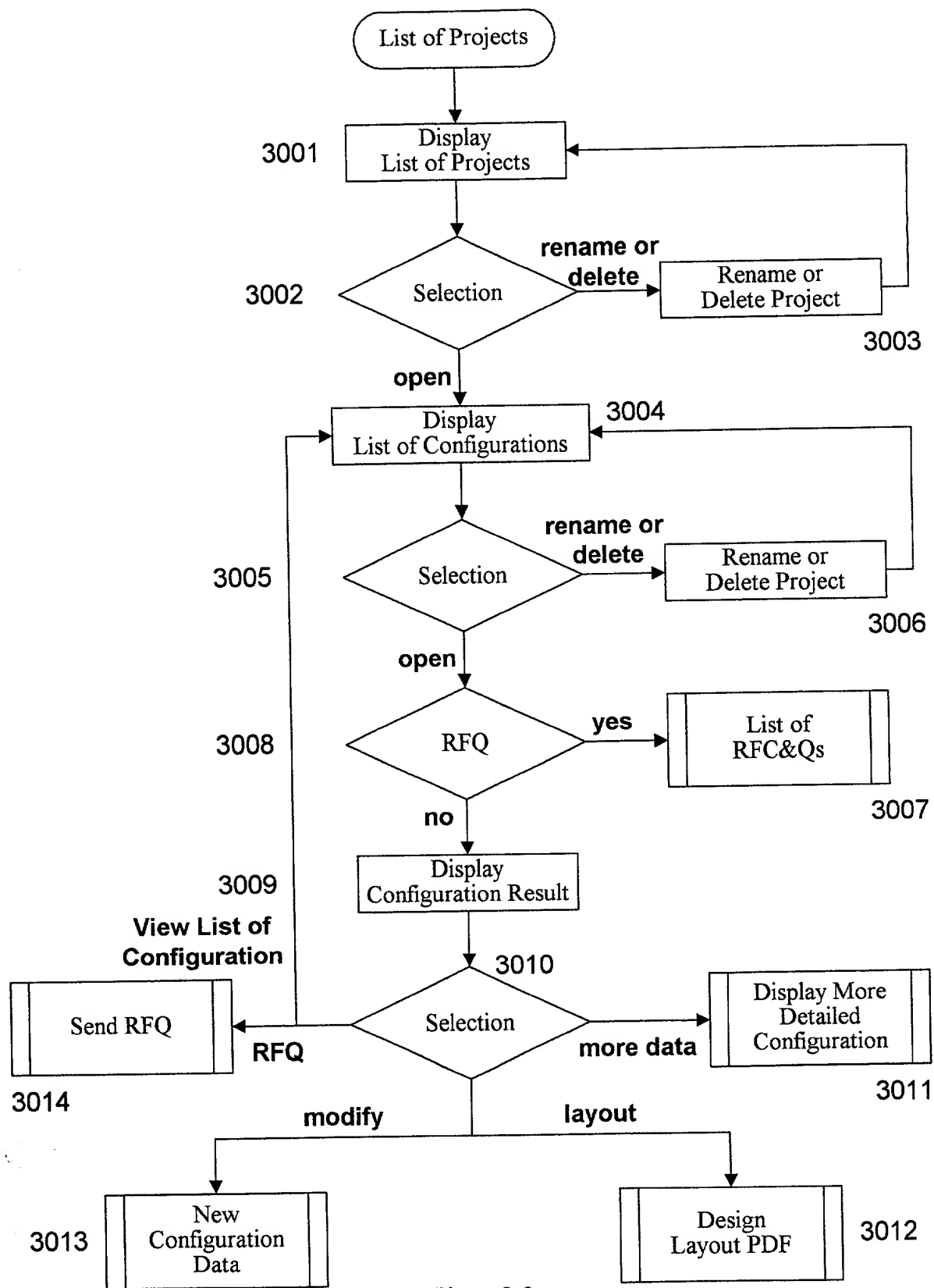
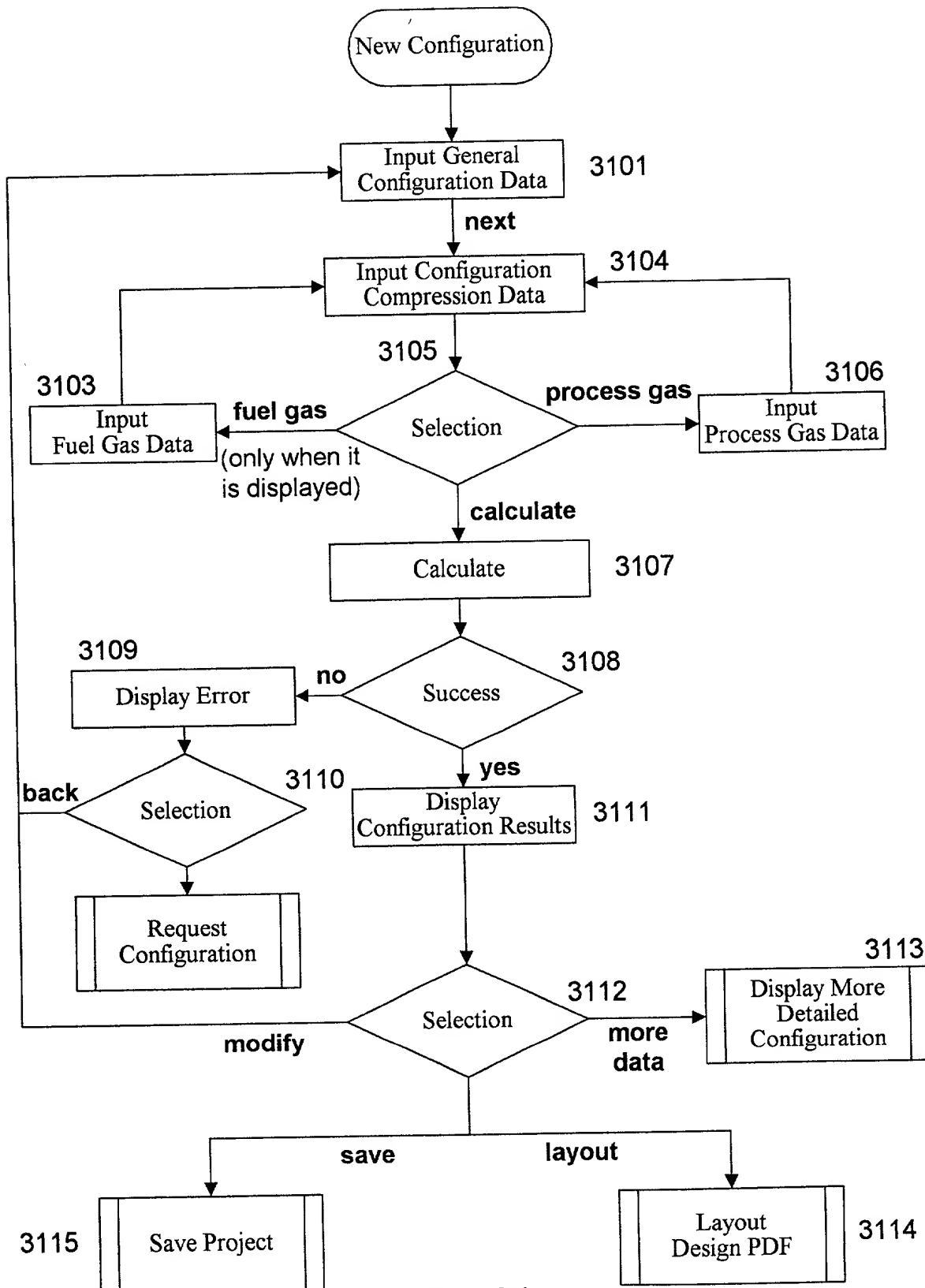


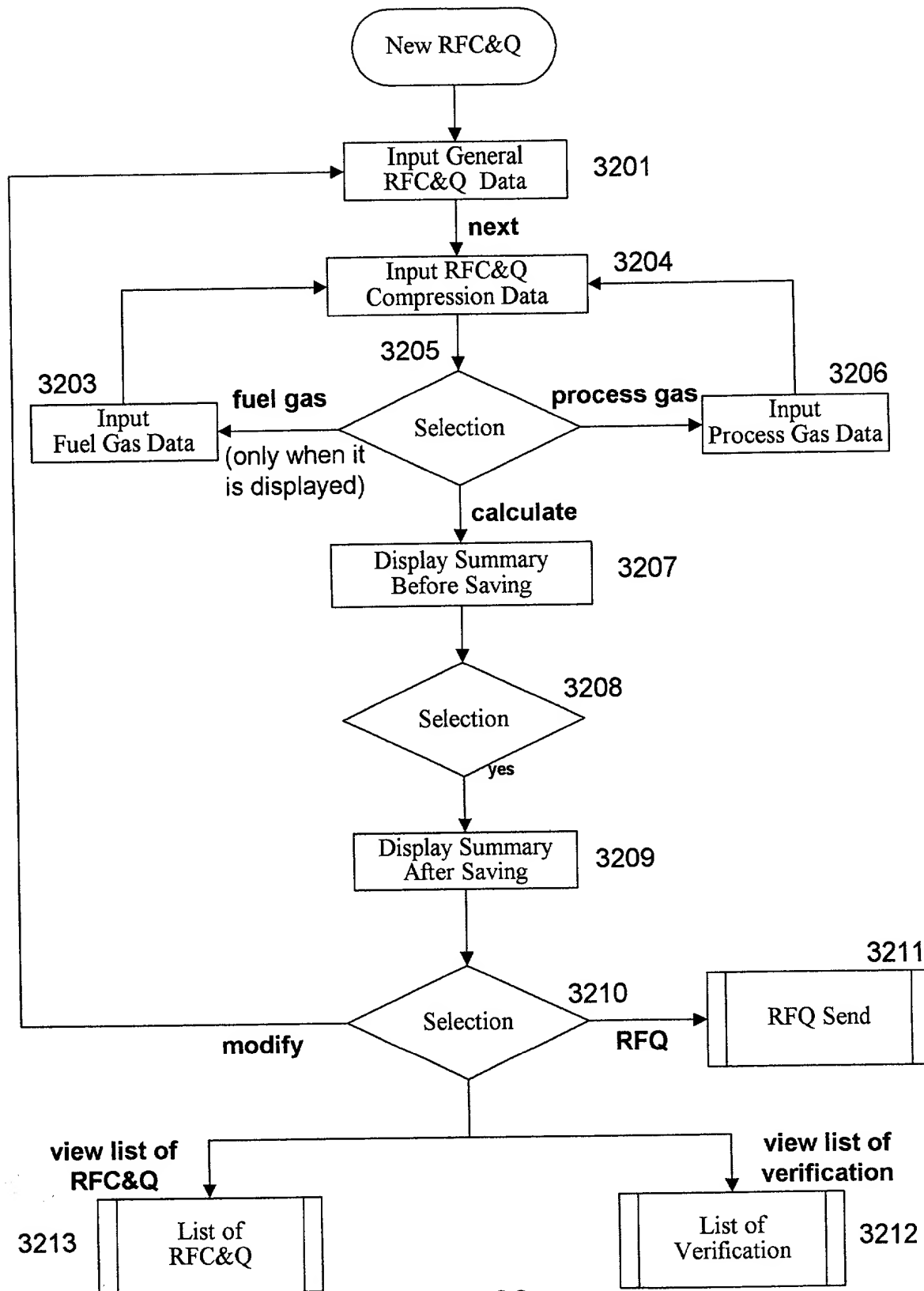
Fig. 29



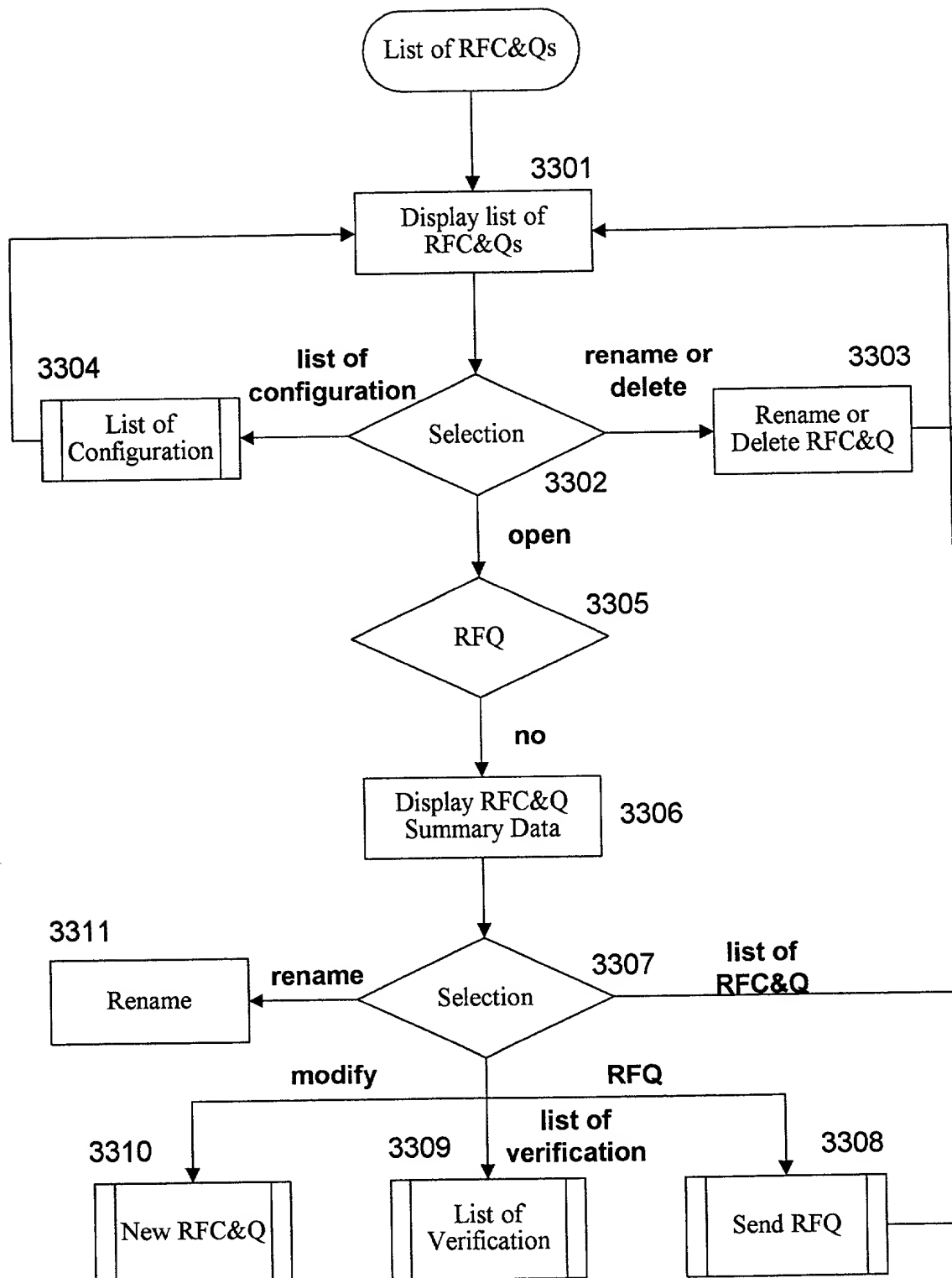
**Fig. 30**



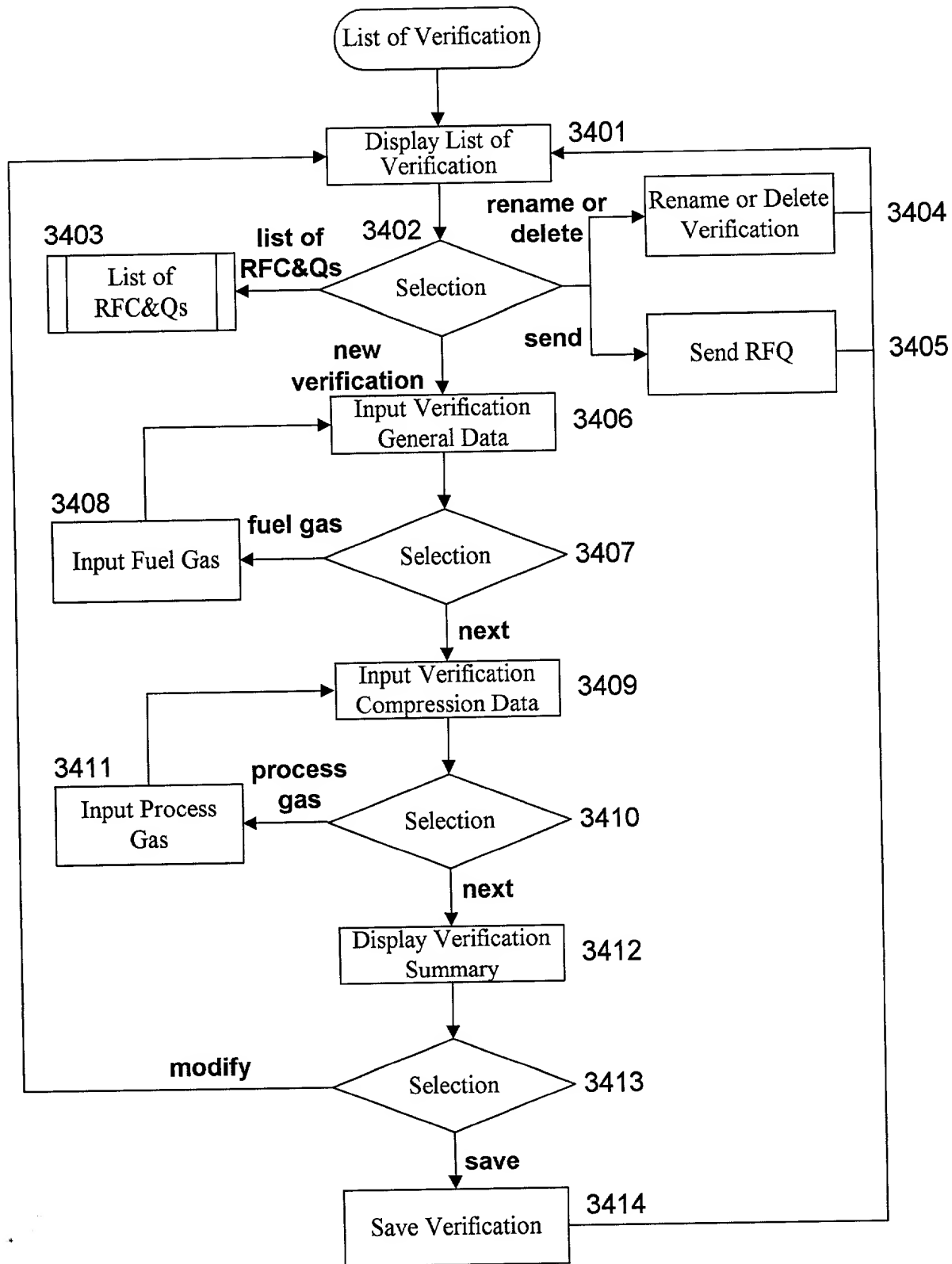
**Fig. 31**



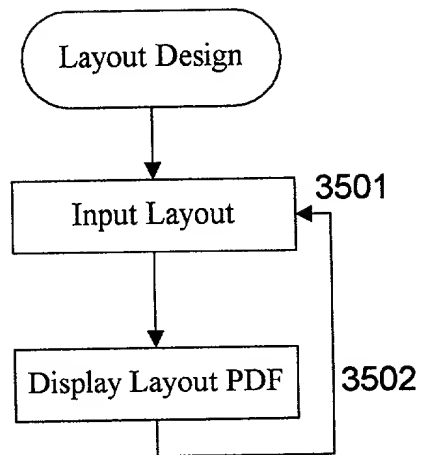
**Fig. 32**



**Fig. 33**



**Fig. 34**



***Fig. 35***